

What is claimed is:

1. A method of sharing communication reconfiguration information in a communication system, the method comprising:

5 determining reconfiguration transceive parameters for indicating a reconfiguration of a data communication channel;

determining ack/comply timing information indicating a time at which an ack/comply is expected;

10 transmitting the reconfiguration transceive parameters and the ack/comply timing information; and

receiving a physical media dependent ack/comply signal indicating whether reconfiguration transceive parameters are to be implemented, the ack/comply signal being received at a time determined by the ack/comply timing information.

15 2. The method of claim 1 wherein receiving a physical media dependent ack/comply signal comprises receiving an ack/comply signal that is encoded within a synch symbol.

20 3. The method of claim 2 wherein the acknowledgment timing information comprises an indication of a specific synch symbol.

4. The method of claim 1 and further comprising implementing the reconfiguration transceive parameters in response to the ack/comply signal.

5. The method of claim 1 and further comprising determining implementation timing information indicating a time in which the reconfiguration transceive parameters should be implemented.

6. The method of claim 5 wherein and further comprising implementing the reconfiguration transceive parameters in response to the ack/comply signal, the reconfiguration transceive parameters being implemented at a time in accordance with the implementation timing information.

7. The method of claim 1 wherein the reconfiguration transceive parameters and the ack/comply timing information are transmitted over an OAM channel.

8. The method of claim 1 wherein the reconfiguration transceive parameters include information to implement a bit swap.

9. A method of sharing communication reconfiguration information in a communication system that includes a communication channel, the method comprising:

receiving reconfiguration transceive parameters for indicating a

5 reconfiguration of the communication channel;

receiving ack/comply timing information indicating a time at which an ack/comply is expected; and

transmitting an ack/comply over a lower layer OAM channel, the ack/comply indicating whether the reconfiguration transceive parameters will be
10 implemented, the ack/comply being transmitted at a time determined by an ack/comply timing information.

10. The method of claim 9 wherein the ack/comply is transmitted within a synch symbol.

15 11. The method of claim 9 and further comprising implementing the reconfiguration transceive parameters after transmitting the acknowledgment.

20 12. The method of claim 9 and further comprising receiving implementation delay information indicating a time in which the reconfiguration transceive parameters should be implemented.

13. The method of claim 12 and further comprising implementing the reconfiguration transceive parameters at a time in accordance with the implementation delay information.

5 14. The method of claim 9 wherein the reconfiguration transceive parameters and the ack/comply timing information are received over an OAM channel.

15. The method of claim 9 wherein the reconfiguration transceive parameters include information to implement a bit swap.

10
"SECRET"

16. A method of sharing communication reconfiguration information in a communication system, the method comprising:

determining reconfiguration transceive parameters for indicating a reconfiguration of a data communication channel;

5 determining implementation timing information indicating a time at which the reconfiguration transceive parameters should be implemented;

transmitting the reconfiguration transceive parameters and the implementation timing information; and

10 receiving an ack/comply indicating whether reconfiguration transceive parameters are to be implemented; and

if the ack/comply indicates that the reconfiguration transceive parameters are to be implemented, implementing the reconfiguration transceive parameters at a time in accordance with the implementation timing information.

15 17. The method of claim 16 and further comprising determining ack/comply timing information indicating a time at which an ack/comply is expected and transmitting the ack/comply timing information.

18. The method of claim 17 wherein the ack/comply being received at a time
20 determined by the ack/comply timing information.

19. The method of claim 16 wherein the ack/comply is received over a lower layer OAM channel.

20. The method of claim 19 wherein receiving an ack/comply comprises receiving an ack/comply that is encoded within a synch symbol.

5 21. The method of claim 20 wherein the acknowledgment timing information comprises an indication of a specific synch symbol.

22. The method of claim 16 wherein the reconfiguration transceive parameters and the implementation timing information are transmitted over an OAM channel.

10

23. The method of claim 16 wherein the reconfiguration transceive parameters include information to implement a bit swap.

24. A method of sharing communication reconfiguration information in a communication system, the method comprising:

receiving reconfiguration transceive parameters for indicating a reconfiguration of a communication channel;

5 receiving implementation timing information indicating a time at which the reconfiguration transceive parameters are to be implemented;

transmitting an ack/comply indicating that the reconfiguration transceive parameters will be implemented; and

10 implementing the reconfiguration transceive parameters at a time in accordance with the implementation timing information.

25. The method of claim 24 and further comprising receiving ack/comply timing information indicating a time at which an ack/comply is expected, wherein the ack/comply is transmitted at a time determined by an ack/comply timing
15 information.

26. The method of claim 24 wherein the ack/comply is transmitted over a lower layer OAM channel.

20 27. The method of claim 26 wherein the reconfiguration transceive parameters and the implementation timing information are received over an OAM channel.

28. The method of claim 26 wherein the ack/comply is transmitted within a synch symbol.

29. The method of claim 24 wherein the reconfiguration transceive parameters

5 include information to implement a bit swap.

continued on next page

30. A communications system, comprising:

a transmitter that transmits data to a receiver over a communication channel;

wherein the receiver determines reconfiguration transceive parameters,

5 ack/comply timing information and implementation timing information and provides the reconfiguration transceive parameters, ack/comply timing information and implementation delay timing information to the transmitter;

wherein the transmitter returns an ack/comply to the receiver at a time in accordance with the ack/comply timing information; and

10 wherein, if the acknowledgment indicates acceptance of the reconfiguration transceive parameters, both the transmitter and the receiver implement the reconfiguration transceive parameters at a time in accordance with the implementation delay timing information.

15 31. The communications system of claim 30 where the communication channel comprises a data channel and an OAM channel, the data being transmitted on the data channel.

20 32. The communications system of claim 31 wherein the transmitter returns the ack/comply over a lower layer OAM channel.

33. The communications system of claim 32 wherein the acknowledgment is part of a synch symbol.

34. The communications system of claim 33 wherein the acknowledgment timing information comprises an indication of a specific synch symbol.

5 35. The communications system of claim 31 wherein the receiver provides the reconfiguration transceive parameters, ack/comply timing information and implementation delay timing information over the OAM channel.

36. The communications system of claim 30 wherein the communications
10 system is an ADSL system.

37. The communications system of claim 30 wherein the reconfiguration transceive parameters include information to implement a bit swap.

38. A communication device comprising:

- means for determining reconfiguration transceive parameters for indicating a reconfiguration of a communication channel;
- means for determining ack/comply timing information indicating a time at

5 which an ack/comply is expected;

- means for transmitting the reconfiguration transceive parameters and the ack/comply timing information; and
- means for receiving a physical media dependent ack/comply signal

10 indicating whether reconfiguration transceive parameters are to be implemented, the ack/comply being received at a time determined by the ack/comply timing information.

39. A communication device comprising:

- means for receiving reconfiguration transceive parameters for indicating a

15 reconfiguration of a communication channel;

- means for receiving ack/comply timing information indicating a time at

which an ack/comply is expected; and

- means for transmitting an ack/comply over a lower layer OAM channel,

20 the ack/comply indicating whether the reconfiguration transceive parameters will be implemented, the ack/comply being transmitted at a time determined by an ack/comply timing information.

40. A communication system comprising:

means for determining reconfiguration transceive parameters for indicating a reconfiguration of a data communication channel;

means for determining implementation timing information indicating a time

5 at which the reconfiguration transceive parameters should be implemented;

means for transmitting the reconfiguration transceive parameters and the implementation timing information; and

means for receiving an ack/comply indicating that the reconfiguration transceive parameters will be implemented; and

10 means for implementing the reconfiguration transceive parameters at a time in accordance with the implementation timing information.

41. A communication system comprising:

15 means for receiving reconfiguration transceive parameters for indicating a reconfiguration of the data communication channel;

means for receiving implementation timing information indicating a time at which the reconfiguration transceive parameters are to be implemented;

20 means for transmitting an ack/comply indicating that the reconfiguration transceive parameters will be implemented; and

means for implementing the reconfiguration transceive parameters at a time in accordance with the implementation timing information.

42. An ADSL communication system, comprising:

a receiver that determines reconfiguration transceive parameters for both the receiver and a transmitter and then notifies the transmitter of the reconfiguration transceive parameters, the reconfiguration transceive parameters including an indication of a bit swap;

wherein the receiver also determines acknowledgement timing information, the acknowledgement timing information comprising a specific reconfigure superframe count in which the transmitter is to ack/comply the reconfiguration transceive parameters if the transmitter chooses to reconfigure after a notification;

an OAM channel for transmitting both the reconfiguration transceive parameters and the specific reconfigure superframe count from the receiver to the transmitter;

a lower layer OAM channel for transmitting an acknowledgment from the transmitter to the receiver if the transmitter chooses to reconfigure, the acknowledgement comprising a synch_flag transmitted at the specific reconfigure superframe count;

a data channel for transmitting data from the transmitter to the receiver; and

wherein both the transmitter and the receiver implement the reconfiguration transceive parameters and utilize said parameters to communicate data over the data channel, the implementation performed in

response to the synch_flag after a superframe count equal to the superframe delay parameter.

- 5 43. A method of sharing communication reconfiguration information in a communication system, the method comprising:
- 10 determining reconfiguration transceive parameters for indicating a reconfiguration of a communication channel, wherein the communication system comprises an asymmetric digital subscriber line system and wherein the reconfiguration transceive parameters including information to implement a bit swap;
 - 15 determining ack/comply timing information indicating a time at which an ack/comply is expected, the acknowledgment timing information comprising an indication of a specific synch symbol;
 - 20 determining implementation timing information indicating a time in which the reconfiguration transceive parameters should be implemented;
 - transmitting the reconfiguration transceive parameters and the ack/comply timing information, wherein the reconfiguration transceive parameters and the ack/comply timing information are transmitted over an OAM channel;
 - receiving the reconfiguration transceive parameters;
 - receiving the ack/comply timing information;

receiving the implementation delay information, the reconfiguration parameters, the ack/comply timing information, and the implementation delay information being received over the OAM channel;

transmitting a PMD layer ack/comply signal over a lower layer OAM

- 5 channel, the ack/comply signal indicating whether the reconfiguration transceive parameters will be implemented, the ack/comply being transmitted at a time determined by the ack/comply timing information, the ack/comply being encoded within a synch symbol;

receiving over the lower layer OAM channel the ack/comply; and

- 10 implementing the reconfiguration transceive parameters, the reconfiguration transceive parameters being implemented at a time in accordance with the implementation timing information.